TABLE OF INTEGRALS

Note: the use of "a", "b" and "c" are as constants

1. $\int x^n dx = \frac{x^{n+1}}{n+1}$

2. $\int \frac{1}{x} dx = \ln|x|$

3. $\int \frac{1}{ax+c} dx = \frac{1}{a}\ln(ax+c)$

4. $\int e^x dx = e^x$

5. $\int e^{(ax+c)} dx = \frac{1}{a} e^{(ax+c)}$

6. $\int a^x dx = \frac{1}{\ln a} a^x$

7. $\int a^{(bx+c)} dx = \frac{a^{(bx+c)}}{b \ln a}$

8. $\int \sin x d = -\cos x$

9. $\int \sin(ax+c) dx = -\frac{1}{a}\cos x(ax+c)$

10. $\int \cos x dx = \sin x$

11. $\int \cos(ax+c) dx = \frac{1}{a}\sin(ax+c)$

12. $\int \sec^2 x dx = \tan x$

13. $\int \csc^2 x dx = -\cot x$

14. $\int \sec x \tan x dx = \sec x$

15. $\int \csc x \cot x dx = -\csc x$

16. $\int \tan x dx = \ln|\sec x|$

17. $\int \cot x dx = \ln|\sin x|$

18. $\int \sec dx = \ln|\sec x + \tan x|$

19. $\int \csc x dx = \ln|\csc x - \cot x|$

20. $\int \frac{1}{a^2 - x^2} dx = \frac{1}{2a}\ln\left|\frac{x+a}{x-a}\right|$

21. $\int \frac{1}{x^2 - a^2} dx = \frac{1}{2a}\ln\left|\frac{x-a}{x+a}\right|$

22. $\int \frac{1}{a^2 + x^2} dx = \frac{1}{a}\tan^{-1}\frac{x}{a}$

23. $\int \frac{1}{\sqrt{a^2 - x^2}} dx = \sin^{-1}\frac{x}{a}$

24. $\int \ln x dx = x \ln x - x$

25. $\int \frac{1}{x \ln x} dx = \ln|\ln x|$

26. $\int \frac{1}{x\sqrt{x^2 - a^2}} dx = \frac{1}{a}\sec^{-1}\frac{x}{a}$